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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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BAKER & DANIELS LLP 111 E. WAYNE STREET SUITE 800 FORT WAYNE, IN 46802				
EXAMINER MCMAHON, MARGUERITE J				
ART UNIT 3747		PAPER NUMBER		

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/813,202

Applicant(s)

DOPKE ET AL.

Examiner

Marguerite J. McMahon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8-10 is/are pending in the application.
- 4a) Of the above claim(s) 13-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 8-12 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Election/Restrictions*

Claims 13-19 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 9/28/05.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 8, 9, 12, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grainger (3,990,421) in view of Hoppner et al (4,691,681). Grainger shows a blower 92 (see Figures 8-13) generating an air stream, a pair of first and second cylinders, an air intake system in fluid communication with said cylinders, an intake air heating arrangement comprising a heater box 93, 94 disposed proximate said first cylinder, an interior of the heater box in airflow communication with said air stream, a conduit 100, 97 in airflow communication with said heater box and with said air intake system whereby air from said air stream is heated within said heater box and is conducted through said conduit into said intake system of the engine, wherein said first and second cylinders are disposed at an angle with respect to one another to define a V-space therebetween, a carburetor 99 disposed within said V-space, an air cleaner 16 connected to the carburetor and in airflow communication with the conduit, wherein

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the heater box is connected to the first cylinder (indirectly), and the heater box is disposed externally of said V-space. Grainger shows everything except a cylinder wrap at least partially enclosing the first cylinder and said cylinder wrap defining an air passage through which the air stream is conducted, and explicitly disclosing a horizontal crankshaft, with the blower being driven by the crankshaft.

Hoppner et al teach that it is old in the art to employ a cylinder wrap 10 at least partially enclosing the first cylinder 7, said cylinder wrap defining an air passage through which the air stream is conducted. It would have been obvious to one having ordinary skill in the art to modify Grainger by employing the cylinder wrap at least partially enclosing the first cylinder, said cylinder wrap defining an air passage through which the air stream is conducted on its way to the heater box, in order to provide additional heating to the intake air stream.

In addition, it would have been obvious to one of ordinary skill in the art to utilize a horizontal crankshaft, with the blower being driven by the crankshaft, as this is the most conventional type of engine arrangement.

Claims 6, 10, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grainger (3,990,421) in view of Hoppner et al (4,691,681), and further in view of Fischer (4,809,595). Grainger in view of Hoppner et al show everything except the air stream being heated by heat from the muffler. Fischer teaches that it is old in the art to utilize a muffler 4 to heat the air stream flowing into the air intake. It would have been obvious to one having ordinary skill in the art to employ a muffler to heat the intake air in

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lieu of an exhaust manifold, since the two are art recognized alternatives, known for the same purpose.

### ***Response to Arguments***

Applicant's arguments filed 2/16/06 have been fully considered but they are not persuasive.

Applicant argues that one of ordinary skill in the art would not modify Grainger '421 in the manner relied upon by the examiner because a relatively large amount of air under pressure is necessary to provide enough air to supply the exhaust burners and to supply a stream of intake air to the carburetor and to venting air injector 102. While the argument itself is spurious, since there is no way for Applicant to actually compare the amount of air utilized by the reference to the amount of air employed in the instant invention, and substantially all of the intake air flows into the intake manifold, as in the instant invention, the logic is also flawed. The amount of air flowing through the intake passageway is related to the size of the passageway, but it is not relevant to the location or structure of the passageway. If the Grainger reference were modified by employing a cylinder wrap at least partially enclosing the first cylinder, said cylinder wrap defining an air passage through which the air stream is conducted on its way to the heater box, this would not limit the amount of air flow through the air passage, it would merely alter the precise location and structure of the air passage. Thus, Applicant's argument that one of ordinary skill in the art would not utilize the teachings of Hoppner et al to modify Grainger is not convincing.

Applicant further argues that one of ordinary skill in the art would have no motivation to add a cylinder wrap to the engine of Grainer because the heater box itself acts a kind of cylinder wrap since it runs nearly the entire length of the engine cylinders, such that any additional structure would be unnecessary. To argue that the presence of a feature is a patentable distinction and that the reference shows no motivation to employ the addition of that feature because the feature is already present in an altered form is disingenuous, but does not provide support for the patentable distinction of the feature for which Applicant is endeavoring to show patentability. The motivation to combine the two references, as stated in the above rejection, is to provide additional heating to the intake air stream. This improves the combustion characteristics of the fuel/air mixture, thus increasing engine efficiency.

Applicant's attention is also drawn to the numerous references cited in the previous Office Action, such as the intake air heating devices of Henriksson et al (4,716,860), Zimmermann et al (6,779,514), and Nara et al (6,807,954), which all employ a cylinder wrap enclosing a cylinder with an air path through which an air stream is conducted in order to heat the intake air. Clearly, this feature is well known in the engine art.

Applicant further argues that newly added claim 20 distinguishes over the prior art because the Grainger reference does not show the V-space being substantially enclosed by portions of the engine. Figure 8 of Grainger shows a top-down view of the engine having a V-space, which is enclosed between the two banks (near heater boxes

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93 and 94), with the air cleaner 98 and conduits 100, 97 above the V-space and the blower 92 to the front of the V-space, thus substantially enclosing the V-space.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Note the intake air heating devices of Henriksson et al (4,716,860), Zimmermann et al (6,779,514), and Nara et al (6,807,954), which all employ a cylinder wrap enclosing a cylinder with an air path through which an air stream is conducted in order to heat the intake air; the intake air heating devices of Reddekopp (4,103,656) and Andersson et al (6,615,790) which both utilize a muffler to provide heat to the intake air stream, and Sarto et al (3,500,806) which shows an exhaust gas heated intake air in an engine with a conventional horizontal crankshaft.

Note also newly cited reference Nakano et al (4,142,502) which shows a V-type engine having a V-space substantially enclosed by portions of the engine (see abstract).

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marguerite J. McMahon whose telephone number is 571-272-4848. The examiner can normally be reached on Monday-Wednesday and Friday, 10am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Cronin can be reached on 571-272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
MARGUERITE MCMAHON  
PRIMARY EXAMINER